

Abstract of the Disclosure

The present invention relates to an epitaxial structure having one or more structural epitaxial layers, including a gallium nitride (GaN) layer, which is deposited on a substrate, and a method of growing the epitaxial structure, wherein the structural epitaxial layers can be separated from the substrate. In general, a sacrificial epitaxial layer is deposited on the substrate between the substrate and the structural epitaxial layers, and the structural epitaxial layers are deposited on the sacrificial layer. After growth, the structural epitaxial layers are separated from the substrate by oxidizing the sacrificial layer. The structural epitaxial layers include a nucleation layer deposited on the sacrificial layer and a gallium nitride layer deposited on the nucleation layer. Optionally, the oxidation of the sacrificial layer may also oxidize the nucleation layer.